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ABSTRACT

Cabletter is an educational service designed to acquaint public service personnel in Connecticut with local telecommunications issues and answers. These four pamphlets include information on how cable television works and its use in the social services. Detailed information is given on how to develop your own television programing using portable video equipment. Specifications for the selection of video hardware are included. (DS)

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CABLETTER: Numbers 1, 2, 4 & 6.

CABLETTER is a creation of the Institute of Public Service and the Connecticut Cable Coalition. Its distribution to Connecticut public service personnel is an educational service intended to acquaint readers with local telecommunications issues and answers.

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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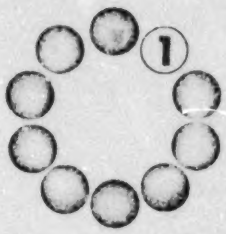
Cabletter



HOW CABLE TELEVISION WORKS

INSTITUTE OF PUBLIC SERVICE • THE UNIVERSITY OF CONNECTICUT

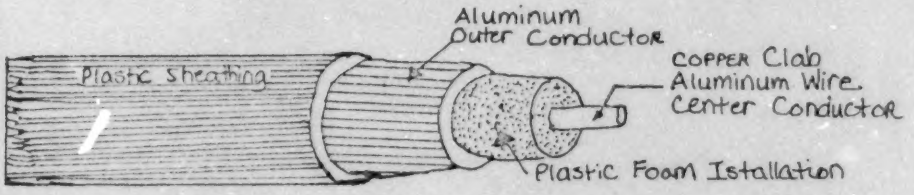
HOW CABLE TELEVISION WORKS

By Natasha Hertz summarized from Pilnick's and Baer's *Cable TV: A Guide to the Technology.*

Cable Television is a communication system that distributes television signals and other information by wire rather than through the air. The signals are transmitted through a coaxial cable which can be laid in the ground or strung onto telephone poles.

The cable itself is just one kind of information transmitter no different in principle from a telephone wire or a wireless communication link such as broadcast radio or television. In each case, information is sent as a varying electrical signal generally superimposed on a high-frequency carrier. The higher the frequency of the signal, the more information the system can transmit.

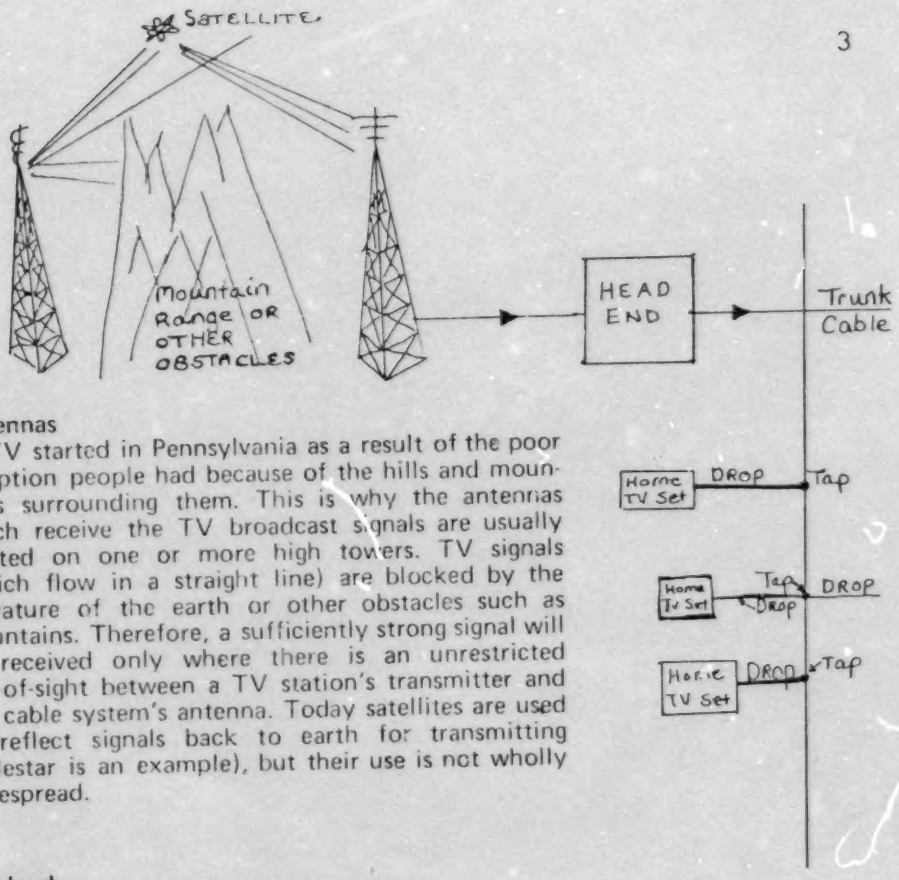
The advantages of using a coaxial cable are such that it allows for a much greater transmission of information flow which is why cable offers so many more television channels for entertainment, plus a large number of data services for health, education, and recreation. This also explains the difference between the terms "broadcasting" (which is utilization of the air waves for information to reach a large, general audience) and "narrowcasting" (information directed at specialized audiences through a wire).



Elements of a Conventional Cable System

1. Towers and Antennas
2. "Headend"
3. Cable distribution networks
4. TV Receivers (Home Cable Terminal)

Natasha Hertz is a senior at The University of Connecticut majoring in Communication. After completing her undergraduate program, Ms. Hertz plans to continue studies in urban planning and telecommunications.



Antennas

CATV started in Pennsylvania as a result of the poor reception people had because of the hills and mountains surrounding them. This is why the antennas which receive the TV broadcast signals are usually located on one or more high towers. TV signals (which flow in a straight line) are blocked by the curvature of the earth or other obstacles such as mountains. Therefore, a sufficiently strong signal will be received only where there is an unrestricted line-of-sight between a TV station's transmitter and the cable system's antenna. Today satellites are used to reflect signals back to earth for transmitting (Telestar is an example), but their use is not wholly widespread.

Headend

From the cable antenna, each broadcast signal is connected by the cable to the headend facility, usually located in a small building near the tower. In a city, this might be the office building upon which the receiving tower is mounted. The headend contains all the equipment necessary to process the signals for distribution on the cable network. The headend may also have other types of equipment such as a small computer or automated switching system that will add the use of the computer in the home for education, shopping, or home management purposes. It could also interconnect with other cable or computer systems anywhere in the country and provide other special services such as Pay TV.

The Cable Distribution Network

The main cables that carry signals from the headend are called trunk *cables*. They are usually ½ or ¾ inch in diameter, but may be as large as 1 to 1¼ inches. The larger diameter cables are used to carry signals for longer distances since they attenuate (let signals lose some of their strength) signals much less. When a trunk cable passes a residential street or other area of high subscriber density, a smaller distribution or *feeder cable* is used to distribute signals from the trunk to that area. Feeder cable are similar in construction to the trunk cable but are smaller in diameter, being usually a little less than ½ inch. From there, a small *drop cable* brings the signal from the closest feeder line into the subscribers home. A coupler, or *tap* connects the drop to the feeder cable.

An added expense to most cable systems is the necessary installation of amplifiers throughout the system since nearly all signals attenuate somewhat and there is a need to reamplify them. They are usually located at the trunk cables and therefore referred to as trunk amplifiers.

Building the conventional one-way cable system described above typically costs about 60-70 dollars per home passed by a trunk cable, if most of the construction is aboveground. Assuming fifty percent of the households in an area subscribe, the system's initial construction costs are about $120-$150 per subscriber. Many CATV systems which distribute only television broadcast systems have been built for considerably less.

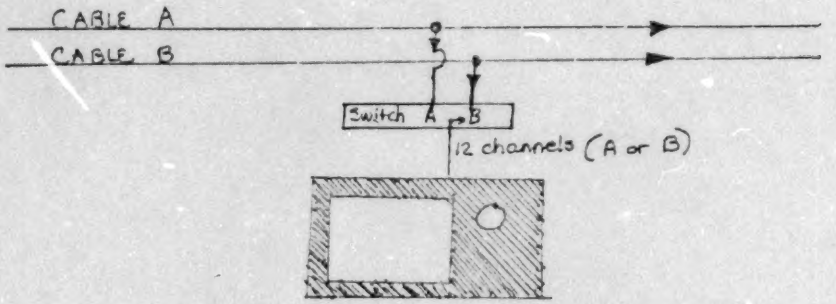
Home Cable Terminals

At the subscriber's home the drop cable may connect to a small transformer that matches the characteristics of the cable to the imput of the TV set. Many new cable systems use the set-top converters to provide more than twelve channels. The subscriber may also want to have a switch to connect their set with a rooftop antenna, should the cable system fail.

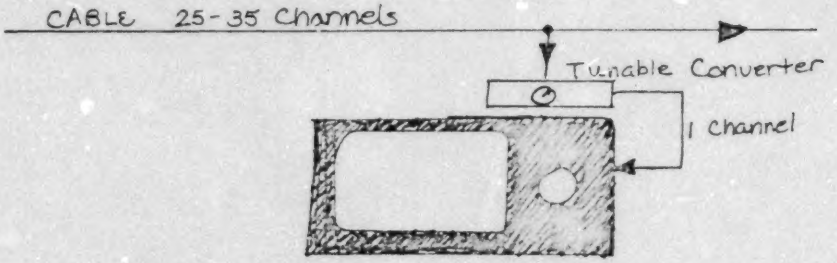
There are three other possible systems above the twelve basic channels

1. Dual-cable system
2. Systems with converters
3. Switched systems

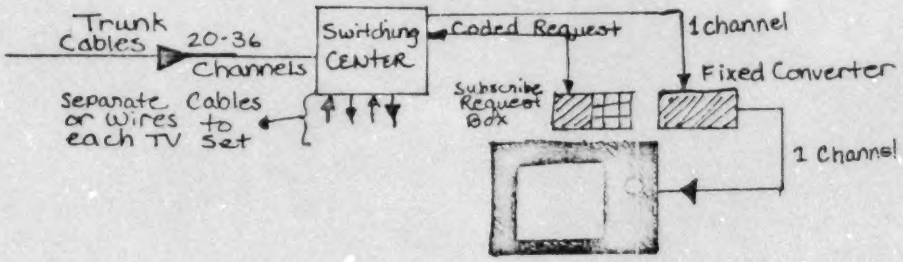
Dual-cable system – if one cable can deliver twelve directly selectable channels to the TV set, an obvious solution to expanding capacity is to use two or more cables. The subscriber is furnished with a two-position "A-B" switch which can connect one of the two cables to the television set at any given time. This doubles the viewing capacity. Dual or multiple cable systems are about 50 percent more expensive than single cable systems. The principle advantage to the multiple cable system is its simplicity. It eliminates converters, which are problem components, making the system more reliable.



Systems with converters – a converter changes a non-standard frequency channel to a VHF channel that can be tuned directly to the subscriber's TV set. In effect the converter replaces the old TV set tuner and provides more channel positions. Channels may be selected with a dial like the conventional TV tuner, a slide lever, or push buttons.



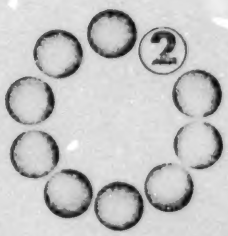
Switched systems – switched systems provide a completely different approach to expanded channel capacity by placing channel selection outside the subscriber's home. The two principle switch systems under development are the AMECO DISCADE and the Rediffusion systems. Both bring signals from a headend to a switching center that serves from twenty to several hundred subscribers. Two separate wires are cables which run from the switching center to each subscriber receiver. One wire carries subscriber requests to the switching center, while the other returns the selected TV signal.



This brief explanation on how cable works is just the beginning of understanding the many issues and potentials of cable. At present, there is a pressing need in two areas: 1) To provide for the future of two-way cable systems, segmenting neighborhoods for varying programming, and the selection of special services... 2) Learning and obtaining advice pertaining to cost implications so as to be able to discuss and control the cable company which has the franchise.

Cabletter is a creation of the Institute of Public Service and the Connecticut Cable Coalition. Its distribution to Connecticut public service personnel is an educational service intended to acquaint readers with local telecommunications issues and answers.

Cableteer



DEVELOPING YOUR OWN TV PROGRAMS

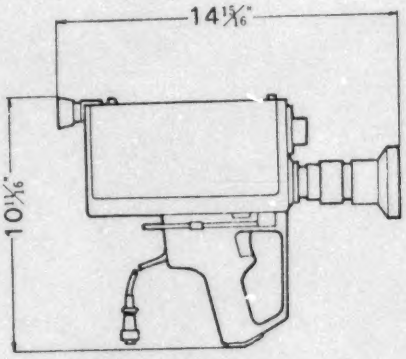
INSTITUTE OF PUBLIC SERVICE • THE UNIVERSITY OF CONNECTICUT

DEVELOPING YOUR OWN TELEVISION PROGRAMS

Part I - Hardware Equipment
By Charles Kaiko

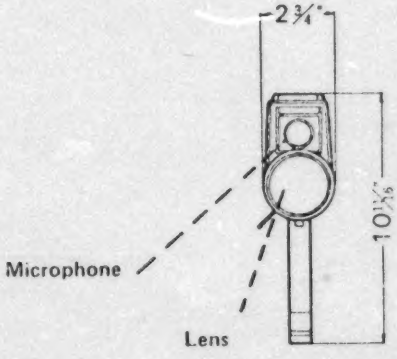
With the emergence of cable communication systems and an increasing responsibility of local government for their development, it makes sense that municipal professionals should learn how to create their own television programs. To this end then, we suggest the following guide to a knowledge of the hardware and medium, its basic functions, some equipment modifications, how to obtain it, how to network with it, some applications examples and finally, a price list of some equipment.

Video tape recording used to be limited exclusively to the studio because of the equipment's mass and weight. In 1968, however, the Sony Corporation introduced to the United States a crude but nevertheless radical piece of technology—the portable black and white video tape recorder, also known as the portapack. (Both camera and recorder have carrying straps.) Through four years of manufacturing, the portapack has been improved to a point where it is now the most durable and useful model of the different 1/2" standard VTRs (video tape recorder) on the market. The VTR has controls similar to those on an audio tape machine-play, record, fast forward and rewind.



TECH TALK (please refer to the back page for all equipment prices.)

Videotape (especially 1/2" wide videotape) is profoundly different from film and it is helpful if we first comprehend these differences. To begin with, videotape is photo-electronically sensitive, not photochemically sensitive like film. That is to say, the image is stored on a layer of magnetic particles as electronic analogue impulses on the tape by means of recording heads in a way roughly approximate to the audio taping process. This means that one can change reels of tape on the portapack in daylight; more important, one does not have to send the tape away to be professionally processed. You can shoot a few minutes of videotape, then rewind the machine and playback the

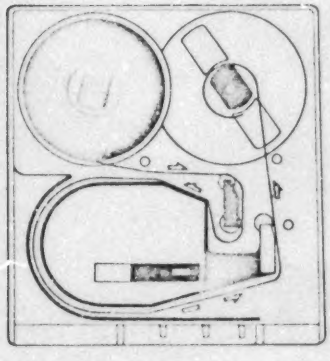


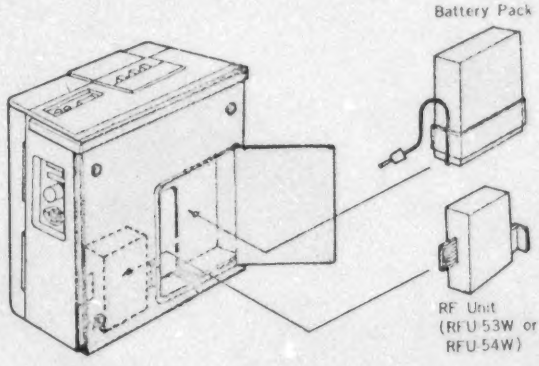
scene just recorded immediately. Furthermore, if after playback, you don't especially like what was just taped, you can rewind the tape and videotape the scene over and over again. Additionally, a monophonic *audio* track is layed down on the tape which is synchronized to the video portion from a quality (electret condenser, omni-directional) microphone built into the portapack's special hand-held camera (6 lbs.). Playback can be achieved on location back through the portapack camera—there is built into the viewfinder a miniature 1"x1" T.V. screen that functions as a record *and* playback monitor. The audio portion can be monitored continuously during record and playback with a set of earphones.

It is easier to capture motion and sound with a video "rig" than with film equipment. You put the Portapack in a standby mode which allows you to scan your field with the camera, and by monitoring the tiny television screen in the viewfinder, you can adjust the lens opening on the camera which controls the amount of light input in much the same way as you would adjust contrast/brightness on your television screen until the desired image contrast appears. Focusing is monitored in the same way, as well as the approximate zoom lens setting, a convenient item which lets you bring distant events up close. When you are ready to tape, a push button on the camera sets the feed and take-up reels rolling on the portapack (half-hour maximum time). Power is supplied by a rechargeable D. C. 45 minute battery pack which loads in the back of the machine, or by regular A. C. household current with the use of an A. C. to D. C. power pack which at the same time can be recharging another battery. (Approx. recharge time for an exhausted battery is 6 hours.) When we go to shoot remote video, we bring along one or two extra charged batteries for added freedom.

After a remote taping session, playback through any regular household type television can be achieved with an RF adaptor which also loads into the back of the portapack and converts the video and audio signals from the machine to that of a regular broadcast signal like the ones that are picked up with a roof antenna. Connection is made by removing the two antenna leads attached to your television set, attaching two leads from the R. F. adaptor in the portapack instead, and switching the television channel to the proper frequency (R. F.).

good battery condition





MODIFICATION OF THE HARDWARE

When one thinks of television production, an indoors, full blown studio ensemble is what most prominently comes to mind, and sometimes it is indeed necessary to do videotaping of a session, meeting, or event that is indoors, perhaps even in the evening.

We mentioned that videotape is photo-electronically sensitive. There is a device in the video camera called the vidicon which transduces (changes) the available light of your event/field that enters the camera lens opening into electronic pulse sequences which then make an electronic pattern on the tape. The vidicon in the portapack camera is sufficiently powerful to render a clean, sharp picture (resolution of 300 lines) in even minimal daylight, but in a building, especially at night, we found that an insensitive vidicon yielded a fuzzy, washed out version of the scene with poor depth of field (this is called graying out). Subsequently, when one needed to do taping inside, it required 1.) a movement from the 1/2" tape equipment series to bulky 1" and 2" equipment costing thousands of dollars more and/or an elaborate lighting system, and 2.) the people and/or events *had to go inside to the equipment* setting, an inconvenience that sometimes takes the power out of an event or interaction.

Texas instruments Inc., in the summer of 1972 introduced a new technology, the Tivicon—a vidicon with a sensitivity to the light spectrum that equals that of the human eye. By replacing the Sony vidicon with T. I.'s Tivicon, you can translate a scene in a 40 watt bulb lighted room into imagery on the T. V. screen with bright daylight tones. Essentially, any room can become an instant studio, as outlets a secondary consideration! (A Tivicon also eliminates camera burns—a scar on the picture frame that results from overexposure to a bright light source, like a direct shot of the sun.)

The portapack camera is small and maneuverable; by utilizing a tripod to stabilize the camera for room pans and sweeps, or a camera extension cable for special free-framing and camera movements/angles, the necessity for complex multiple camera switching systems to shoot exciting in-the-room video becomes somewhat obsolete. Finally, the attachment of a device (Scan Rate Inc.) that enables the portapack to accept hour reels of tape makes the portapack the functional equivalent of more expensive decks in terms of *utility* features.

OBTAINING THE HARDWARE

Now that you know what hardware you want to use, how do you go about getting your hands on it? Well you can either buy it or borrow it. If you plan on buying some equipment (please refer to the price list, suggested systems, and manufacturer's addresses on the two back pages), you should know how to deal with the dealers. First of all, see if you can buy through some sort of state system like a university (state), as this way you can usually obtain a discount at selected equipment dealers. Choose a dealer who repairs expensive equipment, who sells video tape, and who is reasonably close to your base of operations, as you will eventually have to drive the equipment back and forth for some repairs. Video dealers will try to outfit you extravagantly with their particular brand of equipment.

For instance, Sony makes a very nice tripod which is also too precise and expensive for your purposes—you could purchase a different tripod at a camera store for 50% less. You will also be told that you will need a monitor to view your tapes—this is just a regular television set with pairs of audio and video input and output jacks that inflate the T.V.'s price—you are better off buying a regular T.V. set in a department store (if you don't already have access to one) and an R. F. adaptor.

If you plan to borrow equipment, there are two basic sources: 1.) High schools, Universities, and student video groups, and 2.) a cable television system operator (if your area has cable networking).

Grammar and High schools usually have some kind of basic video outfit and eager students who can be sources of free assistance, but the schools often lack the co-ordination and/or goal orientation necessary to integrate the two purposefully. Another possible equipment source are the so-called "videofreak" groups that have developed from an enthusiasm over television technology and social change (an example is the UConn Experimental College Video Group). Some of these groups manage to get grant funding and are anxious to help people use portable video. For example, a group in Rochester, New York called "Portable Channel" operates an equipment pool funded by The New York State Council on the Arts, which involves free instruction on equipment use and free equipment loans to individuals, institutions, and community groups. Members of Portable Channel are also hired outright for production work. The Connecticut Cable Coalition is presently assembling a list of Video people and available equipment in Connecticut.

Cable television operators are required by F.C.C. regulations to provide one channel's worth of time for the exclusive airing of community originated programming, but it is unclear as to what their responsibilities are in the way of equipment loans, besides providing a basic heavy deck and camera set-up in a small room somewhere in their building. Additionally, even if you can make tape with your own equipment, and just bring in a tape that you want played over the community channel, you might run into some snags. The operator will complain that the portapack tapes are incompatible (too instable) with his network, but there are flaws in his defense; it is in the public interest to lobby and twist his arm by complaining to the F.C.C. until he purchases a Consolidated Video Systems CVS 500 digital signal time base error corrector. The CVS 500 cleans up the signal on your video tape and makes it compatible with his network's electrical system. Also, if the work area that the cable operator offers is inadequate, see what kind of room you can get to use at your public places like libraries, museums, and schools.

SELECTED ADDRESSES

Sony Corporation of America
47-47 Van Dam Street
Long Island City, New York 11101
(ask for ½" video catalog and dealer list)

Connecticut Cable Coalition
48 Howe Street
New Haven, Connecticut 16511

Consolidated Video Systems, Inc.
3300 Edward Avenue
Santa Clara, California 95050

Scan Rate Inc.
27 Palm Court
Paramus, New Jersey 07652

Frank Skaggs
Texas Instruments, Inc.
Mail Station 945
Post Office Box 5012
Dallas, Texas 75222

Portable Channel
308 Park Avenue
Rochester, New York 14607

Mr. Kaiko, is an undergraduate in The Communication Division Behavioral Research program of The Speech Department at The University of Connecticut, and a former co-ordinator of The UConn Experimental College Video Group.

THE HARDWARE – *specs:* both machines are black and white 1/2" tape, exclusively Sony manufactured unless otherwise stated–tapes/machines are compatible; all prices are less than absolute retail without tax (The University of Connecticut prices)

	AV-3400 PORTAPACK	AV-3600 DECK
dimensions/ weight	11"x 6" x 11" 19 lbs.	16" x 9" x 13" 33 lbs.
price	$1500 (with special camera and 1 battery pack	$700 (camera $750 extra)
battery operation?	yes	no
portable?	very	minimally
built-in microphone?	yes	no
versatile input/output jacks?	no (can be modified)	yes
one hour tape capacity?	no (can be modified)	yes
operations	playback: output good (not for dubbing) record: excellent	playback: output excellent (for dubbing) record: excellent

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Systems suggestions

System A (1 camera and 1 machine)

AV-3400	$1500.00
Tivicon	.680.00
Tripod	20.00
Battery Charger	70.00
Camera Extension Cable	50.00
Extra Battery Pack	30.00
RF Adapter	50.00
	$2400.00
Option: hour reel converter	190.00
	$2590.00

System B (1 camera and 2 machines)

AV-3400	$1500.00
Tivicon	.680.00
AV-3600	.700.00
Camera Adapter	.110.00
Modified Dubbing Cable	15.00
Tripod	20.00
Camera Extension Cable	50.00
Battery Charger	70.00
Extra Battery Pack	30.00
RF Adapter	50.00
	$3225.00

Recommended Support Equipment

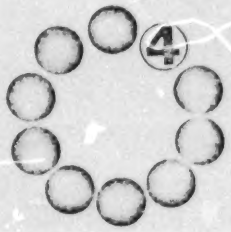
Tivicon (low light vidicon tube) G.B.C. CCTV Corp.	$680.00
Portapack hour reel converter Scan Rate Inc.	$190.00
Adapter for using AV-3400 camera with AV-3600 deck (CMA-2)	.110.00
Modified cable for AV-3600 to AV-3400 dubbing (VCM-3P)	15.00
Tripod	20.00
AV-3400 camera extension cable	50.00
Battery charger/AC adapter	70.00
Battery pack (45 min.)	30.00
RF adapter/converter (RFU 53 FW)	50.00

Videotape reels
20 min. – $10.00
30 min. – $15.00
60 min. – $27.50

What System B offers over System A primarily is the ability to duplicate and reassemble (rough edit) tapes, add more elaborate audio tracks, as well as record one hour programs without interruption without the reel converter. Duplicating tapes is achieved by feeding the audio/video signal from the AV-3600 to the AV-3400 via the dubbing cable. The AV-3600 would be in playback mode while the AV-3400 would be in record mode.

Graphics from Sony Videocorder AV-3400 Manual, Video Camera AVC-3400 Instruction Manual, and *Guerrilla Television* by Michael Shamberg.

Cabletter



DEVELOPING YOUR OWN TV PROGRAMS

Part Two

INSTITUTE OF PUBLIC SERVICE • THE UNIVERSITY OF CONNECTICUT

DEVELOPING YOUR OWN TV PROGRAMS

PART TWO

By Charles Kaiko

This bulletin is a follow-up of Cabletter #2, "Part I—Hardware Equipment," which described the *mechanics* of the Sony portable videotape recorder (Portapak).

PART II—USING THE HARDWARE

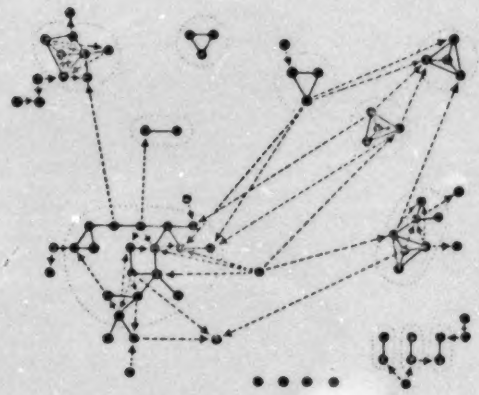
Most people within an hour can become familiar enough with the machine to go out and make video tape, but then have trouble deciding *what* to video tape and how to go about it. Therefore, we would like to suggest the following considerations.

It is always good to spend some time thinking about your subject before you go out to capture it on tape. Traditionally, with film this meant spending many hours getting the seconds, minutes, and sequences of all the shots arranged before the actual takes. This is definately *not* the case with videotape, as there is no such thing as a "wasted take" (videotape of course, is erasable and reuseable).

Finally, keep in mind while videotaping that if you have another machine, you can always "rough edit" out those taped portions that are unnecessary or redundant by making a duplicate tape with just the desired portions, and then showing the rough edited tape to your audience. This required the use of two video machines—one for playback, one for record, and a special connecting cable.

NETWORKING WITH THE PORTAPACK

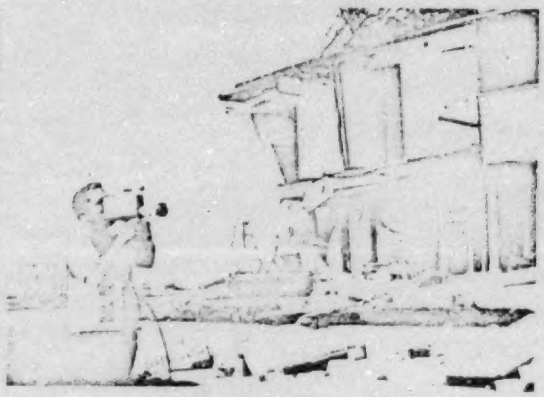
It is important to realize that an information network is a system that permits communication between many points, causing an integration of people, and not necessarily just a highway of wires. With a portapack, a person in Los Angeles and a person in Boston become a basic television network, as videotapes can be exchanged through the mail.



For instance, when Hurricane Camille struck the Mississippi Gulf Coast in 1969, in the aftermath the portapack was used to help minimize the red tape between making the insurance claim and receiving the claim settlement for emergency rebuilding. Fireman's Fund Insurance Company of San Francisco sent their claims adjusters down to Mississippi with portapacks to document the damage done to the claims sites. The tapes were then flown back immediately to Fireman's Fund headquarters in San Francisco where claims of this magnitude are handled. Home office adjusters were then able to view the tapes, evaluate the damage, and then quickly forward the claims settlements to the needy hurricane victims.

A tape made with portable video equipment can "bring" a person to a place that he might not have the time or the *initial* desire to see, or a desire to see but a hesitation to go, or an inability to go, as is often the case with aged or handicapped people. For example, an elderly lady was hospitalized from a street robbery/mugging. A videotape was made of those gathered for the line-up, and later equipment was brought into this lady's hospital room for playback of the videotape. From this, positive identification of her attacker was obtained.

Portable video can also be a helpful instructional aid. The volunteer Monmouth Fire Department of Monmouth, Oregon uses the portapack in two ways: Upon arrival at the scene of the fire, one of the volunteers uses the portapack immediately to diagnose the situation and determine what procedure is needed to best extinguish the fire. This is achieved by using the camera's zoom lens for probing, then examining close-ups without getting physically close to the danger zone. Then, the operations involved in putting out the fire are videotaped for later analysis and critique by the fire captain for the volunteer's education. Normally, the captains don't get much of an overview of the fire extinction procedures, as they are usually concerned with their own part in fighting it.



Within reason, a videotaper's rule of thumb can be "Shoot first and ask questions later". However, it usually helps to get a *general* theme down ahead of time.

ASK YOURSELVES:

1. What do we want to say?
   a. What are the aims of our group?
   b. What are our needs?
2. Who do we want to say it to?
   a. Who are those concerned with our needs?

Make your videotape interesting, specific, and useful to your *target* audience. Present broadcast television is what it is because it has to appeal to the most general audience (the common denominator factor). Additionally, the factor of time sets narrow parameters for the development of the program's predominant theme. This is why when a news program is reporting about a meeting, they have just enough time for the reporter to narrate a summary along with a filmed background showing celebrities going to and coming from the meeting waving hellos.

With portable video, it would pay to tape the *entire* meeting if it was particularly relevant to a *specific audience subgroup*, as they would be the audience *you* determine for your "message distribution network."

For example, a video group in New York City set out to make a series of programs just for the deaf, to be played over the city's cable television system. Their production focused exclusively on the visual video portion, making sure that nothing was placed on the audio portion, as it was of no value to the particular target audience they were concerned with. The subject matter of the series dealt with problems of the deaf, a cooking class, special medical information for the deaf, and even a tape on how to use half-inch portable video equipment!

3. How can we express ourselves so that the audience will understand?
   a. How shall we reach them?

Right off, ask yourself, "Do we need video to communicate the message?" Video means motion, action, background, closeups, etc., and if your subject matter and related context do not lend themselves to those dimensions, then consider perhaps audio tape, or photographs, which are both cheaper and easier to work with.

Usually though, the event does lend itself to videotaping, with a little imagination. For instance, two eighth graders wanted to make a documentary on pollution with video tape, so they prepared a little narration, and then took their school's battery-operated portapack to a local river. They set up the equipment and then taped a reading of their report while standing next to a pipe that was spewing chemicals into the river.

When taping, try to make your perceptual reality that which enters your head through your ears and your one eye trained on the camera viewfinder *exclusively*, because this will be the only reality for your playback audience later. For instance, if it is a windy day and this is related to your subject matter, include some shots of trees swaying or peoples' jackets being blown open. If a lot of people are there watching the same event that you are videotaping, provide your playback audience with a frame of reference for the event by getting some shots of the crowd.

If the event you want to tape is not short-lived (i.e., can be rehearsed), then experiment by taping, then playing back the tape immediately, then retaping, until you have exactly what you want. We once made a tape of a person reading a prepared speech, because this person could not attend a certain meeting and we planned then to play this tape at the meeting instead. We brought a television along with our video equipment and did the tape, playback, retape procedure until we were all satisfied with the tape. As a consequence of speaking and then seeing himself on television, the person we were taping got a basic lesson on television demeanor!

Remember that all Sony half-inch series videocorders have a stop-frame capability, so that if your event is a still subject, don't spend a lot of time cranking out videotape as the tape can later be stop-framed and replayed by the playback audience for intensive examination. Rather, try and get as many different perspectives as possible by walking around the subject matter and video tape recording quick distant and close-up shots using the zoom lens.

Photos taken from Sony Videocorder Applications bulletins, vol. 1, p. 29, vol. 2, p. 29., network model from *Guerrilla Television.*

By bringing your tape to a cable television station for playback through its network, there is a real potential for reaching many more people, if this is your desire. Understand though, that because of the station's subscription fees and other demographic/socioeconomic factors, the audience connected to the cable system may or may not include your specific target audience.

The magic of portable video is context; with it the whole community becomes your television studio. Go to the event to be taped rather than wait for it to come to you, and always bring more support equipment than you think you will need so you can handle unpredictable situations. When going out with the portapack, we mount ours on a regular hiker's backframe, for greater maneuverability through crowds and other obstacles.

Ultimately, remember when using videotape that it is a valuable tool for establishing communication links between formerly discontinuous individuals, groups, and events. Don't use it however, to make obsolete existing interpersonal channels, and keep in mind that the interpersonal, face-to-face communication setting is still one of the most powerful contexts for persuasion.

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ADDRESSES

Challenge for Change Newsletter, National Film Board of Canada, P.O. Box 6100, Montreal 101, Quebec. (Ask for a subscription to their free newsletter and any available free back issues.)

Sony Corporation of America, 47-47 Van Dam Street, Long Island City, New York, 11101. (Ask for their applications bulletins, past and present, which are free to representatives of schools, businesses, community organizations, etc.)

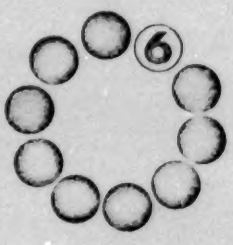
REFERENCE BOOKS

Guerrilla Television, by Michael Shamberg and Raindance Corporation, Holt, Rinehart, and Winston, 1971.

Radical Software, Suite 1304, 440 Park Avenue South, New York, N.Y., 10016.

Community Access Video, H. Allan Fredericksen, 695 30th Avenue, Apt. E, Santa Cruz, California 95060.

Cabletter



Cable and the Social Services

INSTITUTE OF PUBLIC SERVICE • THE UNIVERSITY OF CONNECTICUT

Cabletter is a creation of the Institute of Public Service and the Connecticut Cable Coalition. Its distribution to Connecticut public service personnel is an educational service intended to acquaint readers with local telecommunications issues and answers.

CABLE & THE SOCIAL SERVICES

By Charles W. Bailey

Introduction

As American society has increased in size and complexity, the social service agencies have attempted to meet the rapidly changing needs of her people. Unfortunately, this has too often meant an inevitable growth of these agencies' bureaucracies which become deadlocked in mountains of paperwork and, so, move further and further away from providing personalized service to their clients. Within a single region there are often a number of agencies operating who have little interaction or coordination of services and, thus, perform needlessly overlapping functions and fail to utilize effectively the available resources.

Now, however, with the advent of cable television, social service agencies are given an opportunity to dramatically improve their abilities to perform services. Vital new channels are opened to the general public which provide informative programming about the services and requirements of agencies. Direct service delivery becomes possible over two-way cable television. A blending of telecommunications services enables intensified communication within and between agencies leading to a streamlining of the service deliveries performed by these agencies and a better application of the resources at their disposal to client problems.

Naturally, such a transformation will not come easily. There are difficult decisions to make about the practicality of telecommunication technologies, for they become increasingly expensive in terms of the amplitude of services we expect them to perform. There are problems inherent in any revision of the operations of stable organizations accustomed to certain procedures which must be faced. It is not within the scope of this paper to resolve these difficulties; rather, it is my intention to present a case for the potentialities of CATV used in conjunction with other telecommunications technologies which should be weighed against the alternative of operating in the absence of dynamic and reliable communications mediums.

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CATV has a surplus of available channels and the potential to be an informative, as well as, an entertaining medium.

Internal Agency Use of CATV

The intelligent use of CATV by the social service agencies requires the ownership of and a working familiarity with a videotape system. Briefly, videotape is magnetically sensitive tape that can store both visual and auditory information. Videotape is instantly replayable and can be recorded on a number of times. A rudimentary videotape system includes a television camera, a VTR (Video Tape Recorder), and a monitor. The reader should refer to Cableletters 2 and 4 for a more complete discussion of videotaping.

Training and re-training of staff is a time and fund consuming process which can be accomplished with greater economy by using videotapes. Rather than requiring a multiplicity of training sessions and incurring the expense of gathering training personnel together at each of these meetings, a videotape can be made of the instructor (or team) conducting sessions and answering typical questions from trainees which can be either replayed on a monitor, cablecast on a closed circuit cable system in the agency, or cablecast on an available channel in the community cable system. If the nature of the training is generalized and applicable to a number of agencies (performing basically the same services), appropriate arrangements can be made to make these tapes available to their staffs. Trainers, who are freed from having to repeat this kind of training, can better use their talents to videotape and critique the performance of new staff in their first encounters with service recipients.

Disability determination is a major concern of rehabilitation and service agencies which can be aided by use of videotape. The graphic portrayals of client disability, captured on videotape, enables agencies (in consultation with outside expertise, if necessary) to accurately determine baseline conditions and respond accordingly. This videotape may be made available to other qualified agencies acting in behalf of the client, or stored as a testimonial should appeals

be made by the client. Videotaped records of this kind also act as valuable yardsticks to measure degree of success of the rehabilitation process or other service response.

Agency managers or other highly placed staff may want to initiate a special subscription channel in the community cable system for professionals in their field. This channel is paid for by staff members and can be received only by them. Subscription channels offer a way of coping with the information explosion in our culture by providing a wide range of informative, specialized programming on the most current aspects of the field. Innovative social service administration methods being used in different areas of the country, novel solutions to typical agency problems being attempted, up-dates on the proceedings of professional societies, and condensations of important papers and findings in the field are only some of the types of programming these channels could carry. A key question in considering channels of this kind is who will originate the programming. The hiring of a team of researchers and production staff may be made possible by the formation of a consortium of interested local agencies, but this will require a continuing outlay of funds. Another possibility is the emergence of commercial supply agents on the local or regional level who would provide programming at a set rate.

Providing proper computer facilities exist at the head-end, limited two-way cable capacity opens an "information conduit" through which high speed data storage, retrieval, manipulation, and transferral can be accomplished. Once proper safeguards are established to insure client privacy, computerization offers a means of disentangling the agencies from reams of paperwork by making their information bases flexible and responsive to their needs, rather than static and difficult to access. To make this abstraction concrete, consider the example of an agency which uses traditional methods to achieve intake and referral. Senior staff members can be found huddled over index card files attempting to piece together a clear picture of the area's agencies service offerings. Aside from the long hours spent trying to keep this file current, they must also suffer through trying to match up a client's particular problem with one or more of these cards. All through this area similar agencies are all maintaining their own inefficient card files.

Contrast this situation with the operation of a computerized intake and referral system. Now, the names, addresses, services offered, and eligibility plus other requirements of all the agencies in the area are computerized and made available to intake and referral specialists via two-way

Once proper safeguards are established to insure client privacy, computerization offers a means of disentangling the agencies from reams of paperwork.

cable. When a client comes in with a problem, a staff member (most likely not a senior one) types in information such as client age, sex, language spoken, residential area, and fee payment ability into a remote terminal in the cable system. The computer at the headend searches the data base and matches the client with the appropriate agency. The staff member then calls the agency with the client and makes an appointment for the individual after the agency's ability to perform the service is confirmed. Client tracking and accountability become much simpler procedures than before and it becomes possible to generate area-wide statistics and map client flow. A few days later the staff member can follow up on the referral and evaluate its success.

Two-way CATV intake and referral systems of this kind have a number of benefits. Less time is spent by both staff and clients in the process of connecting them to the service agencies. A built-in system of feedback enables the staff to determine if the service has been satisfactorily performed. Clients are matched with greater accuracy to the agency best suited to their needs. Caseloads are evened out across a number of agencies, rather than being concentrated among those few agencies that are most familiar to the staff member or client. The data base that staff members work with is continually updated so that they have the most current information about the agencies in question. Senior personnel are freed from having to perform intake and referral functions and can spend their time in tasks more suited to their skills. Statistics and management performance indicators are generated with less effort and can be gathered on an area-wide basis for all agencies served by the CATV system. Improved client accountability and tracking is facilitated. Finally, long-term planning for the local agency system as a whole can be achieved when these statistics and other indicies are "modeled" by computer simulation tech-

niques to forecast probable caseloads and client distributions.

Although state-of-the-art and economic barriers exist at this time, a brief consideration of full two-way CATV applications seems appropriate. In a full two-way cable system, any two (or more) subscribers can be connected to each other so that they receive mutual video images and sound. This capacity coupled with frame-grabbers that allow the freezing of a single frame of cablecast information, facsimile printers that can convert this information frame into a hard-copy, and computer information processing services allows a process referred to as teleconferencing to occur. Distance ceases to be a factor in teleconferencing and participants no longer have to juggle their schedules in order to allow for travel time and expense in order to confer. Membership in teleconference meetings does not have to be fixed. As new member's skills or opinions are needed they can be added to the communications network. This responsiveness to changing group needs enhances group productivity and enables expert consultation to be solicited on difficult questions. Back-up materials such as statistics, projective computations, charts, graphs, and videotapes can be retrieved through the system. All of these factors combined facilitate increased intra- and inter-agency communication. Intensified communication paves the way for better cooperation and coordination of service deliveries, thus, helping to eliminate the needless duplications and case-load inequities that have been pinpointed through computerization.

CATV: A New Tool for Community Outreach

It would be a mistake to consider CATV as simply a supplementary form of broadcast television. Due to a conjunction of economic, political, social, and technological factors that shaped its growth, broadcast TV is geared to produce mass appeal, entertainment programming. Channel space is limited and broadcast time slots are precious commodities. Content must be tailored to popular tastes. On the other hand, CATV has a surplus of available channels and the potential to be an informative, as well as, an entertainment medium. Currently, CATV system operators depend on their ability to present the subscriber with a wide selection of broadcast programming to support their systems. However, CATV's growth potential is constricted if it relies too heavily on this service alone. CATV's unique capacity to present narrowcast programming aimed at specialized audiences needs full exploitation in order to ensure cable's existence as a prospering entity. This desire for in-depth programming

Effective local origination by agencies is preceded by training selected staff members in dynamic production techniques.

coupled with FCC regulations securing gratis access to one channel for local government use and additional leased channels could be a boon for interested social service agencies.

What kind of programming can the agencies originate? A quick survey of some pioneering efforts may shed some light on this question. In Pueblo, Colorado, the Public County Welfare Department cablecast a series of programs outlining the availability of and requirements for various welfare services. Hosted by pediatric psychiatrist Dr. Phyllis Harrison-Ross, *All About Parents* explored the problems specific to the inner-city child to parent relationship for cable viewers in New York and Los Angeles. The Santa Maria, California Community Action Program and the March of Dimes jointly developed a series dealing with proper family nutrition called *Health From a Shopping Bag* which was cablecast over the local system. *Cablevision Job Line,* produced by the Colorado State Employment Service, mixed listings of job opportunities with interviews with prospective employers and job hunting tips. The Deafness Research and Training Center of the New York University School of Education created a wide range of programming aimed at the deaf and distributed this programming to a number of nationwide CATV systems. Finally, the Community Action Program of Colorado Springs, Colorado cablecast a series of in-depth documentaries that explained the operation of its constituent agencies.

It is important to note that programming of this sort does not have to be relegated to early morning or late night hours as it would if time had been donated by a broadcaster. Due to channel abundance, social service agencies' cablecasting efforts can be shown on "prime time" or peak viewing periods. The powerful medium of television so suited to conveying information to illiterate, semi-literate, and disabled clients can become (for the first time) available for agency use.

Service delivery by CATV is the underlying theme of

the above examples. More successful life-coping strategies are developed in clients if the agencies create programs illustrating different methods of upgrading both physical and mental health. A rudimentary form of self-referral is accomplished by providing informative programming on the local agencies and their service requirements. On-going service performance is extended and translated into a vital, new medium through efforts such as the *Cablevision Job Line*. Previously impossible service deliveries like special programs for the deaf await discovery by the agencies. This is by no means an inclusive list for CATV applications in social service agencies; it is a virgin territory that needs careful and thoughtful exploration.

Effective local origination by agencies is preceded by training selected staff members in dynamic production techniques. Documentaries consisting of a camera aimed at a narrator reading a prepared text, interspersed by a few photographs will put audiences to sleep. Luckily, comprehensive training can be obtained at most local universities. School systems and industries with in-house television facilities often have media experts on the payroll who might be willing to aid agencies in establishing their production efforts. Agencies can invest in their own videotape equipment at varying levels of expense (½" tape can be converted to 1" or 2" tape suitable for cablecasting) or they can investigate renting studio time from the CATV system or a local broadcaster.

On a long-range basis, agencies may begin to consider the potentials of two-way CATV to provide remote service delivery. The high transportation costs entailed in the training of disabled clients may be reduced by substituting two-way CATV communication for transportation. Videotaped rehabilitation programming can be cablecast directly to the service recipient and supplemented by CAI (Computer Assisted Instruction). Preventative health care can be offered to under 21 welfare recipients by a process known as telemedicine. Clients can retrieve specific information they desire on agency services, nutrition, housing, employment, and any other relevant information that lends itself to computerization. This short, suggestive list will expand as CATV systems develop to a greater extent and capture the imaginations of foresightful social service workers.

Summary

CATV used in conjunction with other telecommunication technologies offers social service agencies a way of

improving both organizational efficiency and performance. Many wasteful practices can be discontinued and replaced by means of communications that are more effective and valuable in the broad range of services they open up to the agencies. A greater degree of organization can be attained within the agencies and more coordinated effort can occur between agencies. However, two questions remain unanswered: 1. Can telecommunications technologies be cost/effective if employed within agencies? 2. Will the agencies be able to develop funding bases to make the conversion to these technologies? The first question will be answered by further research. The second demands an active effort by the agencies in order for the benefit of telecommunications to be realized. One thing remains clear. If CATV continues to flourish, it will have a significant impact on the calibre and style of life in the coming decades. In the words of the Sloan Commission on Cable Communications—

> "Cable technology, in concert with other allied technologies, seems to promise a communications revolution. There have been such revolutions before. Some 500 years ago the hand-written manuscript gave way to the printed book, and where earlier the store of man's knowledge and judgment and imagination had been available only to a few thousands of the wealthy or the learned it abruptly was laid bare to all who wished access to it. Some hundred years ago the first telephone wires were strung, and where earlier a man could readily make immediate contact with no more than those persons he chanced to find in his own neighborhood, quickly he began to find the whole city, the whole nation and ultimately the whole world within the sound of his voice. The revolution now in sight may be nothing less than either of those. It may conceivably be even more.[5]"

GRAPHICS

- ☐ Technology Review, January, 1973.
- ☐ TelePrompTer Corporation 1972 Annual Report.
- ☐ The Sciences, September, 1973.
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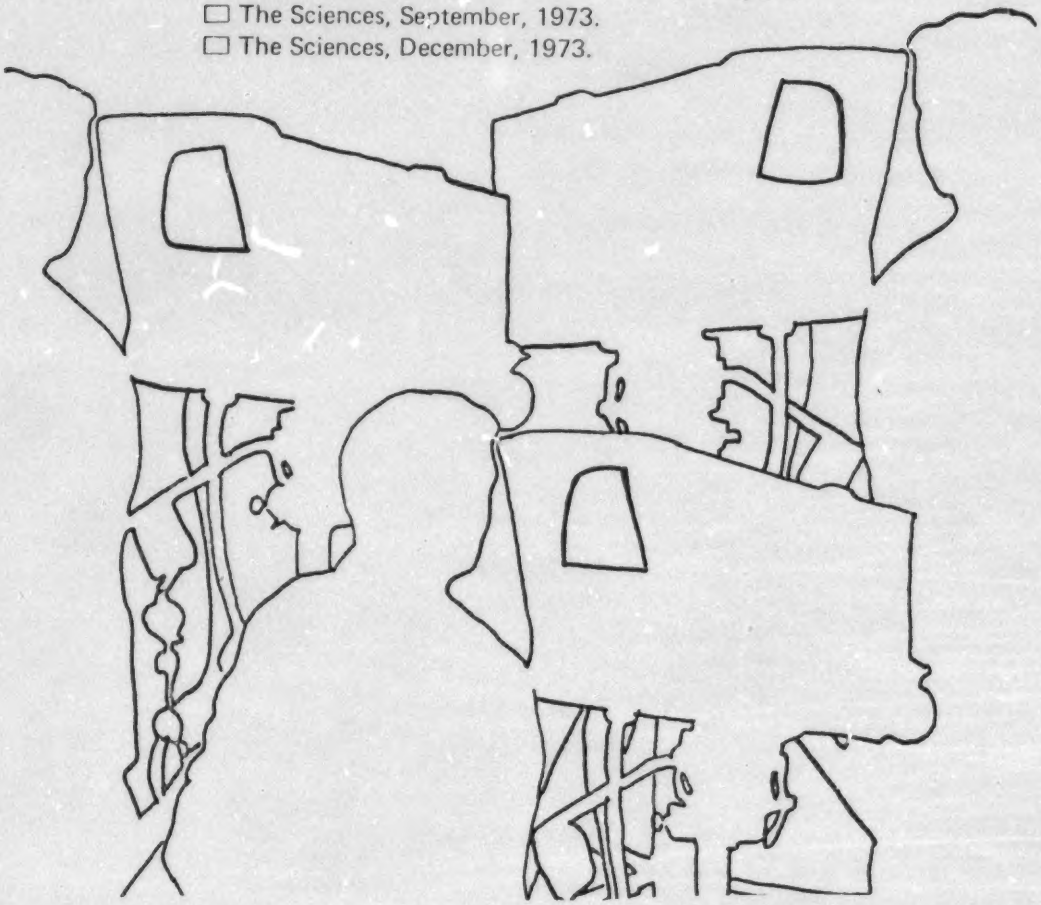

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